REMARKS

The Office Action

All of the pending claims were non-finally rejected under 35 U.S.C. § 112, first paragraph. Claims 149-153 were further rejected under 35 U.S.C. § 112, second paragraph, while the remaining claims were further rejected under 35 U.S.C. § 103.

Telephonic Interview

As an initial matter, applicants thank the Examiner for her participation in a telephonic interview with the undersigned on December 9, 2003. It is applicants' understanding from this interview that the present amendments (submitted to the Examiner in draft form prior to the interview) overcome all of the rejections, so long as the amendments are adequately supported by the specification. Applicants address the support for the amendments below, and favorable action on the claims is respectfully requested.

Support for the Amendments

Support for the amendments to step (d) of claims 89, 114, 135, and 149 is found at page 9, lines 1-6,[1] and page 11, lines 17-19.[2] Support for the phrase "greater than" in these same claims is found at page 34, line 14. Applicants refer to MPEP 2163(II)(A)(3)(a), which cites *Martin v. Johnson*, 454 F.2d 746, 751, 172 USPQ 391, 395 (CCPA 1972) for the proposition that "the description need not be in *ipsis verbis* [i.e., "in the same words"] to be sufficient."

Rejection Under 35 U.S.C. § 112, First Paragraph

Claims 89-153 were rejected as containing language not supported by the application as filed. Applicants have amended claims 89, 114, 135, and 149 (the four claims reciting the objected-to language), and this rejection may now be withdrawn.

---

[1] "The invention can identify previously unknown, and therapeutically potent combinations of, e.g., small molecules, some of which may be newly synthesized and some of which may be known FDA-approved drugs. Where the effective combinations are entirely made up of two, three, four, or more drugs, all of which are already FDA approved, the new combination has the further advantage of being easily moved through the FDA approval process."

[2] "Such combinations may then be used to probe and study additional biological systems, may have a direct biological use, and may serve as the active molecules for novel human therapeutics or other uses in humans."

Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 149-153 were rejected for indefiniteness. The indefinite language in claim 149 pointed out by the Office, "of at least seven different compounds," has been eliminated, so that claim 149 now simply requires the screening of at least 10,000 unique combinations. In view of the amendment of claim 149, the rejection of claims 149-153 for indefiniteness may now be withdrawn.

Rejection Under 35 U.S.C. § 103

All of the claims were rejected for obviousness over two newly cited references, Stylli et al. (U.S. Patent No. 5,985,214; hereafter "Stylli") and Reddy (U.S. Patent No. 6,017,908). Applicants respectfully traverse this rejection.

The inventors were the first to conceive of the fundamentally new idea memorialized in the pending claims: they provided a powerful method of identifying new therapeutics by screening large numbers of combinations of compounds for those few that exhibit a desirable biological activity, such as anti-tumor efficacy. Neither of the newly cited references, nor their teachings combined, even hints at this inventive concept. Indeed, even putting aside the fact that the references fail to suggest the inventive concept, it is beyond dispute that combining the references would not yield the invention of any of the pending claims.

It is manifest (and not contravened by the Office) that neither of the cited references says one word about screening large numbers of combinations of compounds, as all of the pending claims require. Combining the references could not possibly provide the invention recited in the pending claims.

Stylli, as the Office states, describes an automated system for screening drugs for desired biological activity. Of course, Stylli is but one of hundreds, if not thousands, of references that describe such systems; like the other references in this category, it is irrelevant to the patentability of the claims. Stylli, like the myriad other references of its ilk, merely describes screening single compounds for a particular activity.

As acknowledged by the Office, Stylli contains absolutely nothing to teach or suggest what all of the present claims require—screening two-compound or higher order combinations of compounds for a desired biological property.

Reddy, the other cited reference, completely fails to remedy the aforementioned deficiency of Stylli. Reddy, like Stylli, contains nothing to suggest screening large numbers of combinations of compounds for biological activity

Reddy describes a family of 3-epi vitamin D2 compounds, and methods of using these compounds alone or as part of combination therapy. In order to determine the "effective amount" of any compound, Reddy states that the compound can be tested in an *in vitro* assay "described in Example XIV below...or an assay similar thereto." (col. 15, lines 62-63).

The Office asserts that, based on the teachings of Reddy, it would have been obvious to use at least seven of Reddy's compounds in Stylli's method in order to determine the effective amount of each compound in at least forty-nine combinations. There is no basis in the references for this conclusion.

As an initial matter, applicants note that Reddy's Example XIV is non-existent; Reddy provides only one example, Example I. Thus, when Reddy states that any method can be employed to determine the effective amount of a drug so long as it is similar to the method of Example XIV, it is impossible to know which methods would be similar because there is no method of Example XIV.

If we assume that the "assays" referred to in col. 15 of Reddy are those listed in col., 22, lines 15-38, the citation of these assays is if anything supportive of patentability, not obviousness. Reddy makes no mention of the possibility of using the assays, which are described in the literature, in screening large numbers of combinations of compounds. Indeed, in introducing the section on assays, Reddy says the assays measure "activities ...elicited by a vitamin D2 or a vitamin D3 compound in a responsive cell." Clearly, Reddy envisioned testing these compounds for activity individually. In this regard, Reddy is no more relevant to the patentability of the present claims than thousands of other publications describing the testing of multiple compounds. Reddy's mere disclosure of this commonplace approach to drug development cannot supply what Stylli lacks: a suggestion to test multiple combinations of different compounds for biological activity, as required by the present claims.

Conclusion

Applicants submit that the claims are now in condition for allowance and such action is respectfully requested. Enclosed is a petition to extend the period for replying for two months, to

and including December 17, 2003. If there are any charges or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,

Date: Dec. 15, 2003

Paul T. Clark
Reg. No. 30,162

Clark & Elbing LLP
101 Federal Street
Boston, MA 02110-2214
Telephone: 617-428-0200
Facsimile: 617-428-7045

50164.002002 revised reply to OA-post interview.doc